

FIRE IN FLOODPLAIN FORESTS IN THE SOUTHEASTERN USA: INSIGHTS FROM DISTURBANCE ECOLOGY OF NATIVE BAMBOO

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ABSTRACT

Floodplain forests in the southeastern USA have recently been the focus of intensive restoration efforts after centuries of human-caused decline. Many of these restored forests appear to suffer from systemic problems arising from the altered disturbance regime in modern southeastern floodplains. Increasing evidence suggests that fire may be an occasional but important ecosystem component missing from these forests. Most relevant literature mentions fire only in passing, if at all; the literature that does discuss fire is typically either speculative or draws heavily from other ecosystems. This article develops the hypothesis that fire has been an important and recurrent disturbance in southeastern alluvial floodplains for millennia. It first synthesizes research indicating that the expansive monodominant bamboo stands (called canebrakes) once common throughout these floodplain forests were likely fire-obligate and might therefore be used as indicators of recurrent fires. It then examines prehistoric, historic, and recent evidence of fire in bottomland forests from both natural and human sources. Finally, it places these findings into ecological context, proposes an integrated study by which future research might clarify the ecological role of fire in southeastern floodplain forests, and addresses some implications for management.